U.S. Department of Commerce, Bureau of Industry and Security (BIS) DIB Strategic Materials Assessment: Carbon Fiber Composites

Dropdown Menu Options

Section 1a: Organization Information

- A. Select the Description that best identifies your organization:
 - Commercial Company
 - Non-Profit Organization
 - U.S. Government Organization
 - University

B.

Provide the following information for the level at which your organization is responding to this survey (Corporate / Whole Organization or Business Unit / Division)

- Corporate/Whole Organization
- Business Unit/Division

Is this the sole response for your organization, or will additional business units/divisions be submitting responses?

- Sole Response
- Other Responses Expected

C/D. Provide the following information for your company.

- State List of States
- Country List of Countries

E. Is your organization publicly traded or privately held?

- Publicly Traded
- Privately Held
- F. Point of Contact regarding this survey:
 - State List of States

Section 1b: Organization Information

- A. Commercial market segment participation
 - Yes
 - No
- B. Government/Defense market segments
 - Yes
 - No

Section 1c: Organization Information

- A. Business Lines
 - Manufacture

- Distribute
- Both
- Neither

B. Small Business

- Yes
- No

Section 1d: Organization Information

- Provide the following information for your company.
 - Location
 - State List of States
 - Country List of Countries
 - Operations
 - Facility Primary Operation
 - Dropdown of business lines from 1c.A

Section 2a: Key Products

Please complete the table below to describe your organization's **carbon fiber composite-related** capabilities.

- Product Type
 - Precursor chemical
 - Carbon fiber
 - o Carbon fiber fabric/textile/tape, etc.
 - o Resins/epoxies, etc.
 - Composite product
 - o Other
- Manufacture/Distribute
 - Manufacture
 - Distribute
 - o Both
- Product Composition
 - Precursor Type
 - PAN
 - Rayon
 - Pitch
 - Other
 - Not Applicable
 - Carbon Fiber Tensile Modulus

Dropdown Menu Options – For Reference Purposes

- Standard (<40 MSI)
- Intermediate (40-50 MSI)
- High (50-65 MSI)
- Ultrahigh (>65 MSI)
- Unknown
- Not Applicable
- Matrix Type
 - Polyimide
 - Bismaleimide (BMI)
 - Epoxy
 - Silicone
 - Polyester
 - Vinyl Ester
 - Phenolic
 - Benzoxazine
 - Other
 - Not Applicable
- o Prepreg Made or Used
 - Yes
 - No
- End Use
 - Primary sector end use
 - Government Defense
 - Other Government
 - Commercial/Industrial, Non-Government
 - Academic/University
 - Other/Not Sure
 - o Primary end use application
 - Fixed-wing aircraft
 - Rotary-wing aircraft
 - Unmanned aerial vehicles (UAVs)
 - Missiles/Rockets
 - Space
 - Automotive
 - Energy Production
 - Construction/Infrastructure
 - Marine
 - Other
 - Unknown
- Production/Disposition

- Single/Sole Source
- o Sole U.S. Source
- Sole Global Source
- Not Sole Source
- Not Sure

Section 2b: Additional Products

Please complete the table below for the **other products** offered by your organization.

- Product Composition
 - Material Type
 - Glass fibers
 - Aramid fibers
 - Boron fibers
 - Other fibers
 - Metals
 - Ceramics
 - Plastics
 - Other
- Manufacture/Distribute
 - Manufacture
 - Distribute
 - o Both
- End Use
 - o Primary sector end use
 - Government Defense
 - Other Government
 - Commercial/Industrial, Non-Government
 - Academic/University
 - Other/Not Sure
 - Primary end use application
 - Fixed-wing aircraft
 - Rotary-wing aircraft
 - Unmanned aerial vehicles (UAVs)
 - Missiles/Rockets
 - Space
 - Automotive
 - Energy Production
 - Construction/Infrastructure

- Marine
- Other
- Unknown

Section 3a: Suppliers

Provide information on carbon fiber composite-related suppliers

- Input information
 - Input Type
 - o Precursor chemical
 - Carbon fiber
 - Carbon fiber fabric/textile/tape, etc.
 - o Resins/epoxies, etc.
 - Composite product
 - o Other
 - Precursor Type
 - o PAN
 - Rayon
 - o Pitch
 - o Other
 - Not Applicable
 - Carbon Fiber Tensile Modulus
 - Standard (<40 MSI)
 - o Intermediate (40-50 MSI)
 - o High (50-65 MSI)
 - Ultrahigh (>65 MSI)
 - Unknown
 - Not Applicable
 - Matrix Type
 - o Polyimide
 - o Bismaleimide (BMI)
 - Epoxy
 - Silicone
 - Polyester
 - Vinyl Ester
 - o Phenolic
 - o Benzoxazine
 - o Other
 - Not Applicable
 - Prepreg Made or Used
 - o Yes
 - o No

- Supplier Information
 - Supplier State List of States
 - Supplier Country List of Countries
 - Single/Sole Source
 - Single source supplier
 - Sole source supplier
 - Not single or sole supplier
 - Not sure
- Input Product Application
 - Dropdowns from tab 2a, in order of entry

Section 3b: Inputs and Sourcing

- B. All cells:
 - Yes
 - No
 - Not Applicable
- C. Since 2010 has your organization experienced any problems due to critical components and/or materials no longer being produced?
 - Yes
 - No
 - Not Applicable

Does your organization expect to experience any such problems in the next five years?

- Yes
- No
- Not Applicable

Identify reasons for these problems:

- Past Issue
- Future Issue
- Both
- Neither
- Not Applicable
- D. If your organization purchases carbon fiber as a fiber or fabric, is it primarily from a manufacturer or through a distributor?
 - Domestic Manufacturer
 - Domestic Distributor
 - Non-U.S. Manufacturer
 - Non-U.S. Distributor

Section 3c: Inputs and Sourcing

- A. Does your organization utilize any of the following critical materials for your carbon fiber composite-related operations, your overall operations, or both?
 - Carbon Fiber Composite Related
 - Other Items
 - Both
 - Neither
- B. Critical material details
 - Operation Utilization
 - o Carbon Fiber Composite Related
 - o Other Items
 - o Both
 - Neither
 - Sourcing Problems: Availability and Disruptions
 - o Yes
 - o No
 - Inventory Quantity Unit of Measure
 - Ounces
 - o Pounds
 - o Tons
 - o Grams
 - Kilograms
 - o Metric Tons
 - Direct Source Type
 - Distributor
 - Mine
 - Original Manufacturer
 - Recycler
 - Other
 - Direct Source Type
 - Country List of Countries
- C. Do you maintain concern regarding the availability of any key inputs for your organization's operations?
 - Yes/No
 - Dropdowns from list in part B.
- D. Have you **experienced supply chain disruption** impacting your organization's operations?
 - Yes/No
 - Dropdowns from list in part B.

Section 4a: Operations and Challenges

A. Utilization

- Part 1: Percentages and weeks
- Part 2: Yes/No
- B. Challenges utilizing external suppliers
 - A: Yes/No
 - B: Rank only 5 Yes answers, 1-5

Section 4b: Operations and Capabilities

B. Fabrics

- Capable
 - Yes/No

C. Processes

- Capable: Yes/No
- Carbon Fiber Composite Products: Dropdowns from tab 2a, in order of entry

Section 5: Competitiveness and Outlook

- A. Improve Competitiveness Since 2010
 - Business restructuring
 - Capital investment
 - Customer service improvements
 - Innovation, R&D, and design improvements
 - Marketing improvements
 - Quality control improvements
 - Staff adjustments
- B. Improve Competitiveness Next 5 years
 - Business restructuring
 - Capital investment
 - Customer service improvements
 - Innovation, R&D, and design improvements
 - Marketing improvements
 - Quality control improvements
 - Staff adjustments
- C. Program/System Impacts

- Current Participation: Yes/No
- Expected Change: Increase/No Change/Decrease

Section 6a: U.S. Government and DOD Participation

- A. Dependence of demand Carbon Fiber Composite/Other
 - 1 Not dependent
 - 2 Minimally dependent
 - 3 Somewhat dependent
 - 4 Moderately dependent
 - 5 Highly dependent
 - Not applicable
- C. Select potential impacts of a decrease in U.S. Government demand
 - Increase
 - No Change
 - Decrease

Section 6b: U.S. Government and DOD Participation

To the best of your knowledge, identify any U.S. Government agencies your organization **directly and/or indirectly** supports from the list below. *(Multiple Drop Downs)*

- A. Supported a U.S. Government agency?
 - o Yes
 - o No
- B. Specific agency support
 - Carbon Fiber Composite-Related
 - Other Items
 - o Both
 - Unknown/No Visibility
 - Do Not Support
- C. Product specific support
 - Agency Name: Agencies from part B.
 - Products dropdowns from tab 2a in order of entry

Section 7: Sales

- Source of Sales Data/Reporting Schedule
 - Source of Sales Data
 - Corporate/Whole Organization
 - Business Unit/Division
 - Reporting Schedule

- Calendar year
- Fiscal year

Section 8: Customers

- Customer location
 - State list of states
 - Country list of countries
- Products provided lists populated from tabs 2a and 2b

Section 9: Financials

- Source of Financial Reporting/Financial Reporting Schedule
 - Source of Financial Reporting
 - Corporate/Whole Organization
 - o Business Unit/Division
 - Financial Reporting Schedule
 - Calendar year
 - Fiscal year

Section 10: Employment

- Source of Employment Reporting/Employment Reporting Schedule
 - Source of Employment Reporting
 - Corporate/Whole Organization
 - o Business Unit/Division
 - Employment Reporting Schedule
 - Calendar year
 - Fiscal year
- B. Does your organization have difficulty hiring/retaining workers?
 - Hiring
 - Retaining
 - Both
 - No.
- C. Identify any unique carbon fiber composite related skills and/or competencies that are essential to your organization. Identify the general type of skill and/or competency from the drop-down menu then describe it in the right hand box. (Multiple Drop Downs)
 - Analytical skill/competency
 - Design skill/competency
 - Engineering skill/competency
 - Management or development skill/competency
 - Production or manufacturing skill/competency
 - Quality control or testing skill/competency

- Scientific skill/competency
- Other service-related skill/competency
- Other type of skill/competency

Section 11: Research and Development

- Source of R&D Reporting/R&D Reporting Schedule
 - Source of R&D Reporting
 - Corporate/Whole Organization
 - Business Unit/Division
 - R&D Reporting Schedule
 - Calendar year
 - Fiscal year

Section 12: Capital Expenditures

- Source of Capital Expenditure Data/Capital Expenditure Reporting Schedule
 - Source of Capital Expenditure Data
 - Corporate/Whole Organization
 - o Business Unit/Division
 - Capital Expenditure Reporting Schedule
 - Calendar year
 - Fiscal year
- A. Total Capital Expenditures
 - Percentages
- B. Organization's cap ex impacted due to reductions in USG defense spending?
 - Past
 - Future
 - Both
 - No
- C. Identify any unique or critical equipment, infrastructure, and/or facilities owned and/or operated by your organization (e.g. space environmental simulation facilities, wind tunnels, rocket test equipment, etc.) for carbon fiber composite-related applications. Provide a brief description of each. (Multiple Drop Downs)
 - Equipment
 - Infrastructure
 - Facility
 - Other Type (Specify in comment box)